DERWENT-ACC-NO: 1997-488174
DERWENT-WEEK: 199745

TITLE: Preparation of anthocyanin dye from plant for use in food - by extracting with aqueous solution of acid and/or alcohol in ultrasonics field
INVENTOR-NAME: KVASENKOV, O I
PRIORITY-DATA: 1994RU-0022987 (June 29, 1994)
PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
RU 2077543 C1	April 20, 1997	N/A	003	C09B 061/00

INT-C _(IPC): C09B061/00
ABSTRACTED-PUB-NO: RU 2077543C
BASIC-ABSTRACT: The preparation of anthocyanin dye from plant material by extraction with an aqueous solution of an acid and/or an alcohol in an ultrasonics field, then separating product.

The extraction is carried out with a continuous stream of the extractant, such
that the aqueous solution may be obtained by separately supplying the H2O and
acid and/or alcohol at the extraction stage and then combining the separate
streams for treating the plant material.

The anthocyanin-containing material is obtained from black mountain ash berries, hollyhock petals, crushed red cabbage or sunflower seed husks.

USE - Useful in food industry.

ADVANTAGE - Reduces energy costs by employing the exothermic energy effect due
to the dissolution of the acid and/or alcohol in H2O.

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Basic Abstract Text - ABTX:

The preparation of anthocyanin dye from plant material by extraction with an
aqueous solution of an acid and/or an alcohol in an ultrasonics field, then
separating product.

Title - TIX:

Preparation of anthocyanin dye from plant for use in food - by extracting with
aqueous solution of acid and/or alcohol in ultrasonics field

Standard Title Terms - TTX:

PREPARATION ANTHOCYANIN DYE PLANT FOOD EXTRACT AQUEOUS SOLUTION ACID ALCOHOL
ULTRASONIC FIELD

DERWENT-ACC-NO: 1994-055003
DERWENT-WEEK: 199407

TITLE: Anthocyanin dye extn. from plant materials - by applying ultrasonic irradiation during extn. to reduce process time and improve extn. efficiency
INVENTOR-NAME: KOZHUKHAR, V V; KVASENKOV, O I ; PILIPENKO, L N
PRIORITY-DATA: 1992SU-5064781 (October 9, 1992)
PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
RU 2001074 C1	October 15, 1993	N/A	003	C09B 061/00

INT-C _(IPC): C09B061/00
ABSTRACTED-PUB-NO: RU 2001074C
BASIC-ABSTRACT: Dyes used in the food and light industries, and the extn. of anthocyanin solvent (aq. Na sulphite) sepg. the said extract and concentrating it.

The procedure is novel in that the anthocyanin-contg. material is subjected to ultrasonics during extn.. Pressure changes during ultrasonic irradiation enhance rupturing of the plant cells and thus accelerate mass transfer processes.

ADVANTAGE - The extn. time is reduced, and the solubility and concn. of the anthocyanins in the extract are improved. Beetroot, grape husks and organs in crushed form have been used to extract the said dyes employing ultrasonics at a frequency of 100kHz. Bul.37-38/15.10.93

---------- KWIC ---------

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Title - TIX:

Anthocyanin dye extn. from plant materials - by applying ultrasonic irradiation during extn. to reduce process time and improve extn. efficiency

Standard Title Terms - TTX:

ANTHOCYANIN DYE EXTRACT PLANT MATERIAL APPLY ULTRASONIC IRRADIATE EXTRACT REDUCE PROCESS TIME IMPROVE EXTRACT EFFICIENCY

DERWENT-ACC-NO: 1986-126813
DERWENT-WEEK: 198620

TITLE: Extraction of anthocyanine(s) and flavonol(s) from vegetable material -
for use as natural colourings in food, pharmaceuticals, cosmetics, etc.
INVENTOR-NAME:
PRIORITY-DATA: 1985ES-0541893 (April 2, 1985)
PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 8602892 A	March 16, 1986	N/A	000	N/A

INT-C _(IPC): C09B061/00
ABSTRACTED-PUB-NO: ES 8602892A
BASIC-ABSTRACT: The process consists of (a) lyophilising the vegetable material; (b) extracting with a methanol/HCl mixt. by ultrasonic action in presence of sodium metabisulphite; drying the crude extract under vacuum, taking up in TBA and injecting onto a chromatographic column of silica cellulose; (c) successive elution in TBA of a first fraction and in 15% acetic acid of the second fraction; (d) concentrating both fractions to dryness and dissolving the first in methanol and the second in ethanol/HCl mixt.; and (e) concn. of the two solns. to obtain flavanols and anthocyanins respectively.

---------- KWIC ---------

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The process consists of (a) lyophilising the vegetable material; (b) extracting with a methanol/HCl mixt. by ultrasonic action in presence of sodium metabisulphite; drying the crude extract under vacuum, taking up in TBA and injecting onto a chromatographic column of silica cellulose; (c) successive elution in TBA of a first fraction and in 15% acetic acid of the second fraction; (d) concentrating both fractions to dryness and dissolving the first in methanol and the second in ethanol/HCl mixt.; and (e) concn. of the two solns. to obtain flavanols and anthocyanins respectively.

Title - TIX:

Extraction of anthocyanine(s) and flavonol(s) from vegetable material - for use

as natural colourings in food, pharmaceuticals, cosmetics, etc.

DERWENT-ACC-NO: 1998-157909
DERWENT-WEEK: 199814

TITLE: Preparation of red food colourant - from antho-cyanine-containing vegetable material, initially mixed with electro-chemically activated water-analyte
INVENTOR-NAME: KASYANOV, G I; KVASENKOV, O I
PRIORITY-DATA: 1995RU-0116202 (September 19, 1995)
PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
RU 2086590 C1	August 10, 1997	N/A	002	C09B 061/00

INT-C (IPC): C09B061/00
ABSTRACTED-PUB-NO: RU 2086590C
BASIC-ABSTRACT: Preparation of red food colourant, comprises extracting anthocyanine-containing vegetable material with aqueous solution of acid, in ultrasonic field, and separating into phases. The starting material is mixed, before extraction, with electro-chemically activated water-analyte and acid solution, used as extracting agent, obtained by dispersing liquid phase of carbon dioxide in mixture of starting material and analyte, with simultaneous generation of ultrasonic oscillation.

ADVANTAGE - The process increases colour stability of the colourant and its resistance to microbial action.

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Basic Abstract Text - ABTX:

Preparation of red food colourant, comprises extracting anthocyanine-containing vegetable material with aqueous solution of acid, in ultrasonic field, and separating into phases. The starting material is mixed, before extraction, with electro-chemically activated water-analyte and acid solution, used as extracting agent, obtained by dispersing liquid phase of carbon dioxide in mixture of starting material and analyte, with simultaneous generation of ultrasonic oscillation.

INTERNATIONAL SEARCH REPORT

International application No
PCT /RU / 01/ 00121

A. CLASSIFICATION OF SUBJECT MATTER :
IPC7 C09B 61/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC7 C09B 61/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used,
EPODOC, WIPL, HCAPLUS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevan to claim No.
A	WO 89/06671 A1 (INSTITUT BIOORGANICHESKOI KHIMII AKADEMII NAUK UZBEKSKOI SSR), 27 July 1989, the abstract	1-10
A	FR 2290477 A1 (INSTITUT BIOORGANICHESKOI KHIMII AKADEMII), 4 June 1976, the abstract	1-4
A	RU 2077543 C1 (VSEROSIISKY NAUCHNO-ISSLEDOVATELSKY OVOSCHESUSHILNOI PROMYSHLENNOSTI) 20 April 1997 (29.04.97)	5-10
A	RU 2057774 C1 (VSEROSIISKY NAUCHNO-ISSLEDOVATELSKY INSTITUT KONSERVNOI I OVOSCHESUSHILNOI PROMYSHLENNOSTI) 10 April 1996 (10.04.96)	5-10

☐ Further documents are listed in the continuation of Box C ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search report	Date of mailing of the international search report
16 July 2001 (16.07.01)	19 July 2001 (19.07.01)
Name and mailing address of the ISA/	Authorized officer
Facsimile No. RU	Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)